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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/690,342 | 10/21/2003 | Naoji Sakamoto | BW-DKT03038 | 1958 |
| 32175 | 7590 | 07/22/2005 | EXAMINER | |
| BORGWARNER INC. 3850 HAMLIN ROAD AUBURN HILLS, MI 48326 | | | JOHNSON, VICKY A | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3682 | |

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------|-----------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/690,342 | SAKAMOTO, NAOJI | |
| | Examiner | Art Unit | |
| | Vicky A. Johnson | 3682 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I claims 1-6 in the reply filed on July 13, 2005 is acknowledged.
2. The traversal is on the ground(s) that all the inventions would be searched within the same classes and subclasses. This is not found persuasive because claims 1-6 do not require a search for a method of manufacturing involving rolling. The method of manufacturing the device is not germane to the patentability of the device itself. The requirement is still deemed proper and is therefore made FINAL.
3. Claims 7-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the fasteners must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

Art Unit: 3682

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear as to the scope of the claim 2. In claim 1 a sprocket is being claimed, with its intended use being used with a silent chain, but in claim 2 the limitation requires "an outermost link plate of the silent chain". It is unclear how the link plate is part of the sprocket.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson (US 2,179,967).

Thompson discloses: a sprocket comprising a plurality of teeth around a periphery of the sprocket (see Fig 2), each of the plurality of teeth comprising: a pair of side portions (6) having a first hardness located on opposite sides of a central portion (10) having a second hardness, wherein the first hardness is greater than the second hardness (col. 1 lines 6-14).

Re claim 2, each of the side portions has a width (see Fig 4).

Re claim 3, the method of forming the device is not germane to the patentability of the device itself. See MPEP 2113.

Re claim 5, the side portions (6) and the central portion (10) of the plurality of teeth are formed of discrete members integrated together (see Fig 3).

Re claim 6, the discrete members are integrated by fasteners (8').

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson (US 2,179,967) in view of Cole et al (US 5,711,187).

Thompson discloses a sprocket as described above, but does not disclose that the sprocket and the plurality of teeth are formed of a sintered alloy and the pair of side portions of the plurality of teeth have a density greater than the central portion of the plurality of teeth.

Cole et al teaches the use of a sprocket and the plurality of teeth (20) formed of a sintered alloy and the pair of side portions (22) of the plurality of teeth having a density greater than the central portion of the plurality of teeth (col. 4 lines 2-4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sprocket of Thompson so that the side portions of the plurality of teeth having a density greater than the central portion of the plurality of teeth as taught by Cole et al in order to increase wear resistance (col. 1 lines 11-16)

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Art Unit: 3682

| | | |
|--------------|-----------------|-----------|
| 5,213,636 | Akers et al | (teeth) |
| 6,071,204 | Jefferies et al | (inserts) |
| 6,168,754 | Woolf et al | (teeth) |
| 4,472,164 | Pusch et al | (inserts) |
| 5,829,850 | Ketting et al | (inserts) |
| 2002/0193194 | Okabe | (teeth) |
| 6,899,846 | Woolf | (density) |

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vicky A. Johnson whose telephone number is (571) 272-7106. The examiner can normally be reached on Monday-Friday (7:00a-3:30p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Bucci can be reached on (571) 272-7099. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Vicky A. Johnson 7/21/06
Examiner
Art Unit 3682